In another method, as illustrated in Figure 12, an embolus member may b positioned within the vessel wall defect and retained by the intravascular member. As shown in Figure 12, the embolus member may be delivered from a catheter that is disposed within the intravascular member after it has been radially expanded. In particular, the delivery catheter, such as microcatheter 70, as shown in Figure 10, may be positioned so that its distal end is within intravascular member 20, and may then be advanced so that the distal end of microcatheter 70 extends through a portion of intravascular member 20 into vessel wall defect 34. For example, the distal end of the delivery catheter may be advanced through a space between two adjacent convolutions of the helical coil of intravascular member 20 (as shown in Figure 12). The embolus member may then be directed out of the distal end of microcatheter 70. After the procedure, the delivery catheter, such as microcatheter 70, may be removed from intravascular member 20 so that the embolus member is left within vessel wall defect 34 and which is prevented from escaping from the vessel wall defect into the lumen of the blood vessel by the positioning of the intravascular member in the blood vessel.

In the Claims:

Claims 104, 111, 121, 126, and 131 have been canceled.

Claims 102, 103, 105-110, 112-120, 122-125, and 127-130 have been amended as follows:

102. Apparatus for implantation in a blood vessel that has a vessel wall, a vessel lumen defined by the vessel wall and an aneurysm formed in the vessel wall in communication with the vessel lumen, said apparatus comprising:

an intravascular member that has a collapsed configuration wherein it is in the form of an elongate strand member of a first diameter and an expanded configuration wherein

the elongate strand member assumes a curved configuration which generally defines a tubular shape of a second diameter, said intravascular member being advanceable while in its collapsed configuration to a position within the lumen of the blood vessel adjacent to the aneurysm and then expandable to its expanded configuration wherein it engages the vessel wall and is thereby held in substantially fixed position within the vessel lumen adjacent to the aneurysm, and wherein the intravascular member defines a blood flow channel that permits blood to flow through the intravascular member wile it is positioned in the blood vessel; and,

an embolus member that is transluminally advanceable through the lumen of the blood vessel and placeable within the aneurysm;

the intravascular member being operative to prevent the embolus member from escaping from the aneurysm and into the vessel lumen.

103. Apparatus according to Claim 102 wherein the intravascular member self expands from its collapsed configuration to its expanded configuration.

105. Apparatus according to Claim 102 wherein the intravascular member comprises a helical coil when in its expanded configuration.

106. Apparatus according to Claim 102 wherein the intravascular member comprises an outer layer and an inner layer when in its expanded configuration.

107. Apparatus according to Claim 106 wherein the outer layer and the inner layer ar formed of a continuous strand.

108. Apparatus according to Claim 102 wherein the intravascular m mber is formed of a shape memory alloy.

109. Apparatus according to Claim 102 wherein the embolus member comprises a thrombogenic member.

110. A method for treating a defect in the wall of a blood vessel that has a lumen and a wall, said method comprising the steps of:

A. providing an intravascular member that has a radially collapsed configuration wherein it is in the form of a substantially linear member of a first diameter and a radially expanded configuration wherein it is in the form of a generally tubular member of a second diameter;

B. transluminally advancing the intravascular member, while in its radially collapsed configuration, into the blood vessel and to a position within the blood vessel lumen adjacent to the vessel wall defect;

C. radially expanding the intravascular member to its radially expanded configuration such that it engages the wall of the blood vessel and is thereby held in substantially fixed position within the vessel lumen adjacent to th vessel wall defect and so that it provides a blood flow channel to permit blood to flow past the intravascular member when it is positioned in the blood vessel;

D. providing an embolus member sized to fit within the vessel wall defect;

E. positioning the embolus member within the vessel wall defect such that th intravascular member retains the embolus member within the vessel wall defect.

112. A method according to Claim 110 wherein Step E is performed after Step C.

113. A method according to Claim 112 wherein Step E comprises:

i positioning a delivery cath ter having a distal end within th intravascular member after it has been radially expanded in St p C;

ii causing the distal end of the delivery catheter to advance through a portion of the intravascular member and into the vessel wall defect;

iii delivering the embolus member out of the distal end of the delivery catheter and into the vessel wall defect; and,

iv removing the delivery catheter, leaving the embolus member within the vessel wall defect with the intravascular member preventing the embolus member from escaping from the vessel wall defect into the lumen of the blood vessel.

102 114. A method according to Claim 113 wherein the intravascular member comprises a helical coil having a plurality of convolutions with spaces therebetween and wherein step ii comprises advancing the distal end of the delivery catheter through a space between two adjacent convolutions of the helical coil and into the vessel wall defect.

115. A method according to Claim 110 wherein the vessel wall defect is an aneurysm and wherein Step E comprises positioning the embolus member within the aneurysm.

102 116. A method according to Claim 115 wherein the aneurysm is a wide mouthed aneurysm and wherein Step E comprises delivering the embolus member through the mouth of the aneurysm and into the aneurysm sac.

102 117. A method according to Claim 115 wherein the aneurysm is a cerebral aneurysm.

118. A method according to Claim 110 wherein the embolic member delivered in Step E comprises a thrombogenic member.

Rejected 10/21/03 119. An intravascular flow modifier apparatus for treating a defect in a blood vessel wall into which blood flows from the lumen of the blood vessel, said apparatus comprising:

at least one biocompatible member that is initially disposable in a collapsed substantially linear configuration and is thereafter transitionable to an expanded configuration, when in its expanded configuration said at least one member defining a blood flow channel and a flow modification region, the blood flow channel being defined by a plurality of coils with at least one of the coils disposed within at least one of the other coils;

said intravascular flow modifier apparatus being deliverable, while in its collapsed substantially linear configuration, through the blood vessel lumen to a location within the blood vessel lumen adjacent to the vessel wall defect and said apparatus being thereafter transitionable to its expanded configuration such that blood flowing through the lumen of the blood vessel may flow through the blood flow channel of the apparatus and the flow modifying region of the apparatus is positioned adjacent to the vessel wall defect so as to modify blood flow from the lumen of the blood vessel into the vessel wall defect.

120. An apparatus according to Claim 119 wherein the biocompatible member self-expands from its collapsed substantially linear configuration to its expanded configuration.

122. An apparatus according to Claim 119 wherein the biocompatible member comprises a helical coil.

123. An apparatus according to Claim 119 wherein the biocompatible member comprises an outer layer and an inner layer.

124. An apparatus according to Claim 123 wherein the outer layer and the inner layer are formed of a continuous strand.

125. An apparatus according to Claim 119 wherein th biocompatibl member is formed of a shape memory alloy.

112 127. A method for treating a defect in a wall of a blood vessel that has a lumen and a wall, the method comprising the steps of:

A. providing an apparatus that i) is initially disposable in a collapsed substantially linear configuration and is thereafter transitionable to an expanded configuration and ii) when in its expanded configuration comprises a blood flow channel and a flow modification region, the blood flow channel being defined by a plurality of coils with at least one of the coils disposed within at least one of the other coils;

119 B. positioning the apparatus, while in its collapsed configuration, within the lumen of the blood vessel adjacent to the defect;

C6 C. positioning and expanding the apparatus to its expanded configuration such that i) the apparatus engages the wall of the blood vessel to hold the apparatus in a substantially stationary position within the blood vessel lumen, ii) blood flowing through the blood vessel lumen passes through the blood flow channel of the apparatus and iii) the flow modifying region of the apparatus is positioned relative to the defect to divert blood flow from the defect.

128. A method according to Claim 127 wherein the vessel wall defect is an aneurysm, Step B comprises positioning the apparatus within the blood vessel lumen adjacent to the 119 aneurysm and Step C comprises positioning and expanding the apparatus such that th apparatus modifies blood flow in a way that strengthens the blood vessel with th aneurysm.

129. A method according to Claim 128 wherein the aneurysm is a wide mouthed 119 aneurysm and Step C comprises positioning and expanding th apparatus such that th flow modifying region is next to the mouth of the aneurysm.